

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-010129

(43)Date of publication of application : 14.01.2000

(51)Int.Cl.

G02F 1/35

(21)Application number : 10-176316

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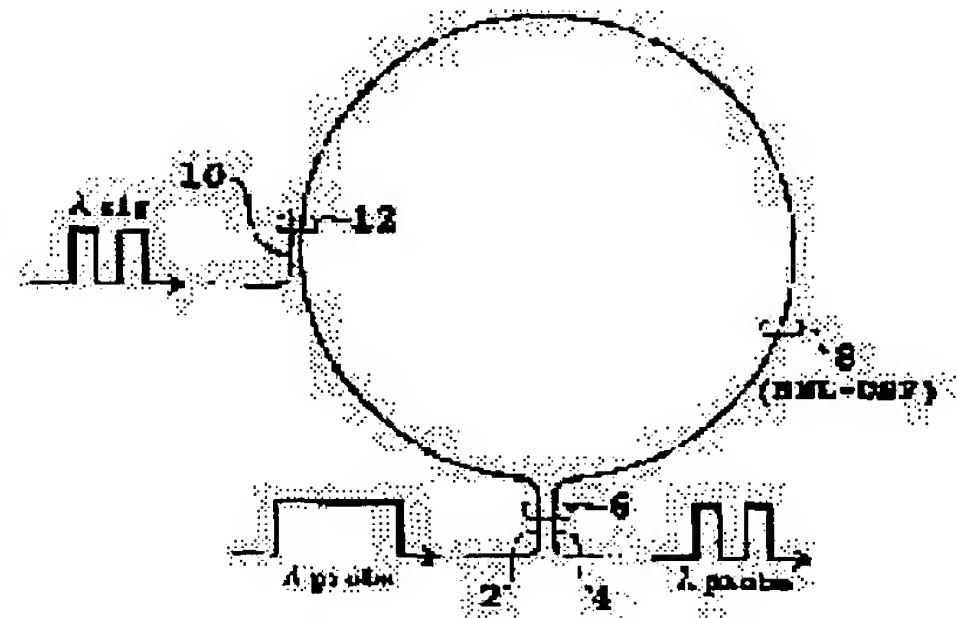
(22)Date of filing : 23.06.1998

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**(54) OPTICAL GATE DEVICE, PRODUCTION OF THIS DEVICE AND SYSTEM HAVING THIS DEVICE****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To make it possible to use a relatively short optical fiber as a nonlinear optical medium with respect an optical gate device, a process for producing this device and a system having this device.

**SOLUTION:** This gate device comprises an optical coupler 6 including directionally coupled optical paths 2, 4, a loop optical path 8 connecting these optical paths 2, 4 and an optical path 10 directionally coupled to this loop optical path 8. The optical fiber constituting part or the whole of the loop optical path 8 is so formed as to have a nonlinear coefft. sufficiently large to shorten its length to the extent that the optical fiber has a polarization plane maintaining capability.

**LEGAL STATUS**

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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